

In the claims:

This version of the claims replaces and supercedes all prior versions of the claims.

1. (Currently Amended) A voltage controlled variable capacitance device comprising:
 - a substrate; and
 - one or more first varactor elements and one or more second varactor elements formed on a surface of said substrate and interconnected in parallel, each of said first and second varactor elements including:
 - a well formed on the surface of said substrate and connected to a first terminal;
 - an insulating film formed on said well; and
 - an electrode formed on said insulating film and connected to a second terminal, said insulating film being sandwiched between said well and said electrode, wherein the thickness of said insulating film of said one or more first varactor elements are [is] thinner than the thickness of said insulating film of said one or more second varactor elements, and the number of said one or more first and second varactor elements is set in accordance with a desired correlation between a voltage applied between said first terminal and said second terminal and a capacitance between said well and said electrode.

2. (Original) The voltage controlled variable capacitance device according to

claim 1, wherein a diffusion region is formed in the surface of said well, said diffusion region being of the same conduction type as that of said well and connected to said first terminal.

3. (Original) The voltage controlled variable capacitance device according to claim 2, wherein said diffusion region is formed at two positions so as to sandwich said electrode, when viewed in a direction perpendicular to the surface of said substrate.

4. (Original) The voltage controlled variable capacitance device according to claim 1, wherein said substrate is a semiconductor substrate having a conduction type different from that of said well.

5. (Currently Amended) The voltage controlled variable capacitance device according to claim 1, including one of said one or more first varactor elements and one of said one or more second varactor elements.

6. (Currently Amended) The voltage controlled variable capacitance device according to claim 1, wherein said one or more first varactor elements includes a plurality of first varactor elements, and said one or more second varactor elements includes a plurality of second varactor elements, and said voltage controlled variable capacitance device including two of said plurality of first varactor elements or two of said plurality of second varactor elements, with the other being one in number. including two first varactor elements or two second varactor elements, with the other being one in number.

7. (Currently Amended) The voltage controlled variable capacitance device according to claim 1, wherein said voltage controlled variable capacitance device is incorporated in a semiconductor integrated circuit which includes a core portion for performing calculations and storing data, and an I/O portion for receiving and transmitting signals to and from an external circuit, and said insulating film of said one or more first varactor element is formed at the same time as a gate electrode of a MOS transistor is provided in said core portion, and said insulating film of said one or more second varactor element is formed at the same time as a gate electrode of a MOS transistor is provided in said I/O portion.

8. (Original) A voltage controlled variable capacitance device comprising:

a substrate; and

one or more first varactor elements and one or more second varactor elements formed on a surface of said substrate and interconnected in parallel, each of said first and second varactor elements including:

a well formed on the surface of said substrate and connected to a first terminal,

an insulating film formed on said well, and

an electrode formed on said insulating film and connected to a second terminal, said insulating film being sandwiched between said well and said electrode, wherein the dielectric constant of a material forming said insulating film of said first varactor element is higher than the dielectric constant of a material forming said insulating film of said second varactor element, and the

number of said first and second varactor elements is set in accordance with a desired correlation between a voltage applied between said first terminal and said second terminal and a capacitance between said well and said electrode.

9. (Previously Presented) The voltage controlled variable capacitance device according to claim 8, wherein a diffusion region is formed in the surface of said well, said diffusion region being of the same conduction type as that of said well and connected to said first terminal.

10. (Original) The voltage controlled variable capacitance device according to claim 9, wherein said diffusion region is formed at two positions so as to sandwich said electrode, when viewed in a direction perpendicular to the surface of said substrate.

11. (Original) The voltage controlled variable capacitance device according to claim 8, wherein said substrate is a semiconductor substrate having a conduction type different from that of said well.

12. (Original) The voltage controlled variable capacitance device according to claim 8, including one first varactor element and one second varactor element.

13. (Original) The voltage controlled variable capacitance device according to claim 8, including two first varactor elements or two second varactor elements, with the other being one in number.

14. (Original) The voltage controlled variable capacitance device according to claim 8, wherein said voltage controlled variable capacitance device is incorporated in a semiconductor integrated circuit which includes a core portion for performing calculations and storing data, and an I/O portion for receiving and transmitting signals to and from an external circuit, and said insulating film of said first varactor element is formed at the same time as a gate electrode of a MOS transistor is provided in said core portion, and said insulating film of said second varactor element is formed at the same time as a gate electrode of a MOS transistor is provided in said I/O portion.

15. (Previously Presented) A voltage controlled variable capacitance device comprising:

a substrate; and

one or more first varactor elements and one or more second varactor elements formed on a surface of said substrate and interconnected in parallel, each of said first and second varactor elements including:

a well formed on the surface of said substrate and connected to a first terminal;

an insulating film formed on said well; and

an electrode formed on said insulating film and connected to a second terminal, said insulating film being sandwiched between said well and said electrode, wherein the C-V curve of said first varactor element and the C-V curve

of said second varactor element are different, and the number of said first and second varactor elements is set in accordance with a desired correlation between a voltage applied between said first terminal and said second terminal and a capacitance between said well and said electrode.

16. (Previously Presented) The voltage controlled variable capacitance device according to claim 15, wherein the thickness of said insulating film of said first varactor element is thinner than the thickness of said insulating film of said second varactor element.

17. (Previously Presented) The voltage controlled variable capacitance device according to claim 15, wherein the dielectric constant of a material forming said insulating film of said first varactor element is higher than the dielectric constant of a material forming said insulating film of said second varactor element.